GONCHARSKIY, Lui Abramovich, kand. tekhn. nauk; LYUSTIBERG, V.F., inzh., ved. red.; BELYNSKIY, V.V., inzh., red.; SOROKINA, T.M., tekhn. red.

[Electronic acceleration transducers] Elektronnye datchiki uskoreniia. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 27 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 31. No.P-58-60/10)
(MIRA 16:3)

(Transducers) (Accelerometers) (Electron tubes)

ETINGOF, Mira Iosifovna; LYUDIN, Genrikh Lazarevich; SHTEYNBOK, GYu., inzh., ved. red.; LYUSTIBERG, V.F., inzh., ved. red.; SOROKINA, T.M., tekhn. red.

[ET-4-55 strain-measuring amplifier.KT-1 quartz tachometer] Tenzometricheskii usilitel' tipa ET-4-55. Kvartsevyi takhometr KT-1. [By]G.L.Liudin. Moskva, Filial Vses. in-ta nauchn. i tekhn.informatsii, 1958. 27 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 31. No.P58-29/5) (MIRA 16:3)

(Tachometer) (Electronic instruments)

MORDVINOVA, N.P., inzh., ved. red.; LYUSTIBERG, V.F., inzh., ved. red.; SOROKINA, T.M., tekhn. red.

[Systems and apparatus for automatic and remote control, and regulation]Sistemy i apparatura dlia avtomaticheskogo i telemekhanicheskogo upravleniia i regulirovaniia. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii. No.1. 1958. 28 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 42. No.P-58-17/1) (MIRA 16:3)
(Remote control) (Automatic control)

LAYUS, Lyudvig Avgustovich; ZUYEV, Boris Mikhaylovich; STEPANOV, Semen Grigor'yevich; LYUSTIBERG, V.F., inzh., ved. red.; FOMICHEV, P.M., tekhn. red.

[Impact-tension tester of hard polymers. Polarization unit for optical investigation of stresses] Kopor dlia ispytaniia tverdykh polimerov na udarnoe rastiazhenie. Poliarizatsionnaia ustanovka dlia issledovaniia napriazhenii opticheskim metodom. Moskva, Filial Vses.in-ta nauchn. i tekhn.informatsii, 1958. 15 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 32. No.P-58-13/5) (MIRA 16:3)
(Polymers--Testing) (Optical instruments)
(Polarization (Light))

SOKOLIK, Anatoliy Ioniasovich, kand. tekhn. nauk; BORTSOV, Viktor Mikhaylovich; POLYAKOVSKIY, Lev Yudelevich, inzh.; LYUSTIBERG, V.F., inzh., ved. red.; SOROKINA, T.M., tekhn. red.

[IV-13, IV-13M and IV-13MA time-interval indicators. TTU-5-55 three-channel strain-measuring amplifier] Izmeriteli intervalov vremeni IV-13, IV-13M i IV-13MA. Trekhkanal'nyi tenzometricheskii usilitel' tipa TTU-5-55. [By]L.IU.Poliakovskii. Moskva, Filial Vses.in-ta nauchn. i tekhn.informatsii, 1958. 17 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 31. No.P-58-22/4) (MIRA 16:3)
(Automatic timers) (Strain gauges)

KUBLANOVSKIY, Yakov Solomonovich; SARIBAN, Mark Mikhaylovich; DEM'YANCHENKO, Georgiy Vasil'yevich; LYUSTIBERG, V.F., inzh., ved. red.; PONOMAREV, V.A., tekhn. red.

[Klystron generator. UIP-4K impulse device for determining the uniformity of the characteristic impedance of a coaxial cable] Klistronnyi generator. Impul'snyi pribor UIP-4k dlia opredeleniia odnorodnosti volnovogo soprotivleniia koaksial'nogo kabelia. [By] G.V.Dem'ianchenko. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 14 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 36. No.P-58-36/9) (MIRA 16:3)
(Klystrons) (Coaxial cables--Measurement)

LYUSTIKH, YE.

Neskol'ko Skhem Mekhanicheskikh Integratorov. DAN. 25 (1937), 9-12.
Aber die Ordnung der Automorphismengruppe einer endlichen Gruppe. Matem. SB., 1 (43), (1936), 887-906.
Klassy Kuazi-Sopryazhennykh Elementov Konechnykh Grup. Matem. SB. 3 (45). (1938), 389-402.
O Razlozhenii Abelevykh Grup V Pryamyye Summy Ratsional'nykh Grup. Matem. SB., 8 (50), (1940), 205-238.
Sistemy S Odnim Beskonechnym Deystviyem. DAN,50 (1945), 49-52.
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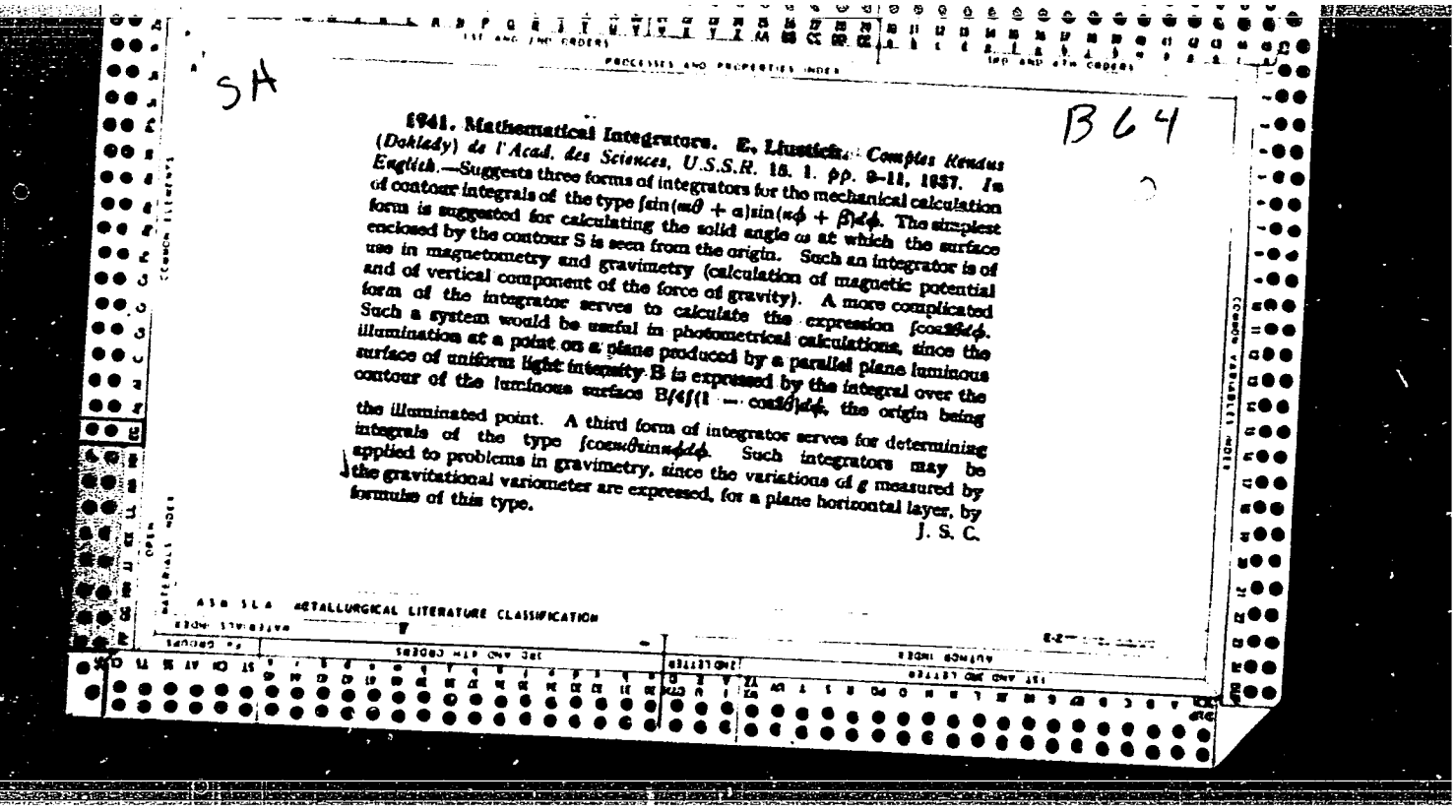
edited by Kurosh A.G.
Markushevich, A.I.
Rashevskiy, P.K.
Moscow-Leningrad, 1948



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1941. Mathematical Integrators. E. Liustich. *Comptes Rendus (Doklady) de l'Acad. des Sciences, U.S.S.R.* 18. 1. pp. 9–11, 1937. *In English.*—Suggests three forms of integrators for the mechanical calculation of contour integrals of the type $\int \sin(m\theta + a)\sin(n\phi + \beta)d\phi$. The simplest form is suggested for calculating the solid angle ω at which the surface enclosed by the contour S is seen from the origin. Such an integrator is of use in magnetometry and gravimetry (calculation of magnetic potential and of vertical component of the force of gravity). A more complicated form of the integrator serves to calculate the expression $\int \cos^2\theta d\phi$. Such a system would be useful in photometrical calculations, since the illumination at a point on a plane produced by a parallel plane luminous surface of uniform light intensity B is expressed by the integral over the contour of the luminous surface $B/4\pi \int (1 - \cos^2\theta) d\phi$, the origin being the illuminated point. A third form of integrator serves for determining integrals of the type $\int \cos m\theta \sin n\phi \, d\phi$. Such integrators may be applied to problems in gravimetry, since the variations of g measured by the gravitational variometer are expressed, for a plane horizontal layer, by formulæ of this type.

J. S. C.

LIUSTIKH, E. M.

Liustikh, E. M. "Mechanical Integrator for Calculating Gravity Anomalies." In the book: Sbornik Statei po Metodike Interpretatsii Gravimetricheskikh Nabliudenii. Trudy Vsesoiuznoi Konferentsii (Tresta) Geofizicheskikh Razvedok, [illegible], [illegible].

LYUSTIKH, Ye. N.

"On the Use of Gravitational Survey Data of Reconnoitering Nature," Dok. AN, 43, No. 6, 1944. (Mbr. of Volga-Bashkirian Oil Prospecting Party, Inst. Theoretical Geophys., Dept. Physico-Math.Sci.)

LYUSTIKH, Ye.N.

Geological significance of different methods for computing gravity anomalies. Trudy Inst.teor.geofiz. 3:3-45 '47. (MLRA 9:9)
(Gravity)

PA 69T39

LYUSTIKH, YE. N.

1948

USSR/Geophysics
Gravimetry

"A Test of the Interpretation of the Moscow Gravitational Anomaly," Ye. N. Lyustikh, Inst of Theoretical Geophys, Acad Sci USSR, 15 pp

"Sovet Geolog" No 28

General description of Moscow Magnetic Anomaly (MMA), quantitative interpretation of anomaly, and possible systems for representing crystalline foundation.

69T39

LYU[illegible]IKH YE., M.

Experiences in the Interpretation of [illegible]" Sovetskaya Geologiya (Soviet Geology) No [illegible], [illegible] ([illegible])

S[illegible]: U-[illegible], [illegible] 1953

LYUSTIKH, YE. N.

PA47T43

USSR/Geology Mar 1948
Stratification

"Possibility of Using Academician O. Yu. Shmidt's Theory in Geotectonics," Ye. N. Lyustikh, Technophys Lab, Geophys Inst, Acad Sci USSR, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 8

Claims that O. Yu. Shmidt's cosmogonic theory has great possibilities for promoting new geotectonic hypothesis. Describes uses to which it can be adapted and evolves accurate expression on the basis of experiments. Submitted by Academician O. Yu. Shmidt, 20 Jan 1948.

47T43

LYUSTIKH, Ye. N.

"Experiments in Utilization of the Zonal Anomalies of Gravitation Forces for Studying the Reasons for Prolonged Vertical Movements of Platforms," Dok. AN, 61, No. 4, 1948.

LYUSTIKH, Ye. N.

"The Problem of the Mechanism of Fold Formation," Dok. AN, 65, No. 6, 1949. Lab. Tectophys, Geophys. Inst., Acad. Sci.

LYUSTIKH, Ye. N.

USSR/Geophysics - Geotectonics May/Jun 51

"Problem of the Earth's Energy Balance in Geotectonic Hypotheses," Ye. N. Lyustikh, Geophys Inst, Acad Sci USSR

"Iz Ak Nauk SSSR, Ser Geofiz" No 3, pp 1-8

Demonstrates that any geotectonic hypothesis reduces to conclusion that significantly more heat than observed heat loss is released from the bowels of the Earth. This particularly concerns the contact hypothesis. Cf. Gutenberg and Richter, "Seismicity of the Earth and Associated Phenomena," Princeton U Press, Princeton, NJ, 1949. Submitted 3 Jan 51 by Acad O. Yu. Shmidt.

186T38

LYUSTIKH, Ye.N.

"Problem of the energy balance of the earth in geotectonic hypotheses" (author's abstract). Vop.kosm.1:273-274 '52.
(MLRA 7:2)
(Geophysics)

LIUSTIKH, YE.N.

MAGNITSKIY, V.A.; LIUSTIKH, Ye.N., redaktor.

[Principles of geophysics] Osnovy fiziki zemli. Moskva, Izd-vo geodezicheskoi lit-ry, 1953. 290 p. (MLRA 7:2)
(Geophysics)

LYUSTIKH, Ye. N.
USSR/Geophysics - Gravity anomaly

FD-753

Card 1/1 : Pub 44-1/11

Author : Lyustikh, Ye. N.

Title : Schemes of gravitational anomalies for the entire Earth

Periodical : Izv. AN SSSR, Ser. geofiz, 385-389, Sep-Oct 1954

Abstract : Presents maps showing gravitational anomalies in the reductions of Buge and Faya. Briefly discusses the problems connected with their possible explanations. Six references: 3 USSR (I. D. Zhongolovich of the Institute of Theoretical Astronomy and the Central Scientific-Research Institute of Geodesy, Aerophotography and Cartography; Ye. N. Lyustikh of the Institute of Theoretical Geophysics), and 3 Finnish (L. Tanni, W. Heiskanen, and E. Niskanen, all writing English-language articles).

Institution : Geophysics Institue, Acad. Sci. USSR

Submitted : October 26, 1953

LYUSTIKH, Ye.N.

"Cosmogonic theory of O.IU.Shmidt and the structure of the earth."
P.N.Kropotkin. Abstract by E.N.Liustikh. Vop.kosm. 2:319 '54.
(MIRA 8:5)
(Shmidt, Otto IUl'evich, 1891-)
(Earth--Surface)

60-55-26-13/16

AUTHOR: Lyustikh, Ye. N.

TITLE: Tectonics of the Abyssal Parts of the Earth's Crust Based on Gravimetric Data (Tektonika glubokikh chastey zemnoy kory po gravimetricheskim dannym)

PERIODICAL: Trudy Geofizicheskogo instituta Akademii nauk SSSR, 1955, Nr 26, pp 153-159

ABSTRACT: The author discusses in the light of analyses of gravitational anomalies and other geophysical findings the structure of the Earth's crust, abyssal processes, isostasy, etc., for the Earth as a whole, and for individual regions such as the Caucasus, Indonesia, etc. He points out that the study of regional and zonal anomalies of gravity makes it possible to determine with a certain approximation the distribution of the heavy and light masses in the deepest parts of the Earth's crust and below, and to clarify whether processes of expansion and contraction and the displacement of material have taken place in the deeper regions of the Earth. Stressing the importance of isostatic and tectonic processes, the author points out that geosynclinal zones are characterized by linear gravity minimums related to zones of

Card 1/2

60-55-26-13/16

Tectionics of the Abyssal Parts of the Earth's Crust Based (Cont.)

stabilized conditions and the intercalation of large masses of crust with sharply differentiated densities. Anomalies in the force of gravity indicate that the development of the Earth's crust and geosynclines is best explained by the hypothesis of the uplift of light sialic components from the abyssal depths of the Earth as a result of chemical and gravitational differentiation. The lack of observations in general and their uneven distribution on the Earth's surface hinders our better understanding of the problem; this could be improved by combined gravitational-seismic investigations. There are 1 figure and 8 references of which 7 are Soviet, 1 English.

AVAILABLE: Library of Congress

Card 2/2

60-55-26-14/16

AUTHOR: Lyustikh, Ye. N.

TITLE: Gravity Anomalies and Abyssal Tectonics of Indonesia and Other Island Arcs (Anomalii sily tyazhesti i glubinnaya tektonika ostrovnykh dug)

PERIODICAL: Trudy Geofizicheskogo instituta Akademii nauk SSSR, 1955, Nr 26, pp 160-197 (USSR)

ABSTRACT: The author examines possible schemes of structures for the Earth's crust in areas of island arcs on the basis of Bouguer anomalies. He provides a detailed study of Indonesia with several quantitative interpretations of the anomalous field. Vening-Meinesz' geotectonic hypothesis is discussed and suggestions are made supporting the hypothesis of the differentiation of the Earth's abyssal parts. There are 28 figures and 23 references of which 17 are Soviet, 2 Dutch, 1 Finnish, 2 French, and 1 English.

AVAILABLE: Library of Congress

1/1

LYUSTIKH, Yevgeniy Nikolayevich; KROPOTKIN, P.N., otvetstvennyy redaktor; GUROV, K.P., redaktor; ASTAF'YEVA, tekhnicheskiy redaktor.

[Isostasy and isostatic hypotheses] Izostaziia i izostaticheskie gipotezy. Moskva. Izd-vo Akademii nauk SSSR. 1956. 89 p. (Akademiia nauk SSSR. Geofizicheskii insitut. Trudy no.38) (MLRA 10:3)
(Isostasy)

LYUSTIKH, Ye. N.

USSR/Physics of the Earth - Origin and Structure of the Earth, O-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36325

Author: Lyustikh, Ye. N.

Institution: Geophysical Institute, Academy of Sciences USSR

Title: On the Role of Volcanoes and the Hot Springs in the Power Balance of the Earth's Crust

Original Periodical: Izv. AN SSSR, ser. geofiz., 1956, No 1, 92-94

Abstract: An assumption is stated, that taking into account the heat, lost by the earth as a result of hydrothermal activity, it is possible to resolve many debatable problems of the general power balance of the earth. It is indicated that in the region of Lardorello (Tsucani, Italy) the steam carries away from the earth more than 7×10^{23} ergs/year. If we assume that the wells pick up only 1% of all the steam that passes through the soil in this location, the total heat carried away by the steam amounts to 10^{26} ergs/year. One hundred such regions could produce a power yield, equal to all the heat

Card 1/2

USSR/Physics of the Earth - Origin and Structure of the Earth, O-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36325

Abstract: lost by the earth by heat conductivity, amounting to 10^{28} ergs/year. It is necessary to revise the estimates of the total heat carried away by steam and water over the entire earth.

Card 2/2

LYUSTIKH, Ye. N.

USSR/Physics of the Earth - Origin and Structure of the Earth, O-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36337

Author: Lyustikh, Ye. N.

Institution: None

Title: On the "Cosmogeotectonic" Hypothesis

Original Periodical: Izv. AN SSSR, ser. geofiz., 1956, No 2, 238-239

Abstract: Serious errors are noted in the article by G. P. Tarmazyan (Referat Zhur - Fizika, 1956, 36336). According to Tarmazyan, the tidal action of the gravitational field is proportional to the field intensity, while actually it is proportional to the gradient of the intensity.

Card 1/1

LYUSTIKH, Ye.N.

Computing rheological properties of the asthenosphere on the basis of the "emersion" of the Fenno-Scandian shield. Izv.AN SSSR Ser.geofiz. no.3:360-364 Mr '56. (MIRA 9:7)

1.Akademiya nauk SSSR, Geofizicheskiy institut.
(Earth--Surface)

LYUSTIKH, Ye. N.

"Abyssal Structure of the Earth's Crust in Indonesia Based on Gravity Data," The International Association of Geodesy; Abstracts of the Reports at the XI General Assembly of the International Union of Geodesy an d Geophysics, Moscow, Izd-vo An SSSR, 1957, 63 p. k.500 copies printed.

Describing the geotectonics of Indonesia, and the seismicity and volcanism of the area, the author discusses the origin of the region, its structural setting and the existing geo-synclines and uplifts. He connects the belts of active and extinct volcanoes with two lines of the Inner Sunda and the Northern part of the Inner Celebes uplifts. The focal Depths of earthquakes are greater than 50 km. Distribution of gravity anomalies and their quantitative interpretation does not fit into the Vening Meinesz picture, nor do the hypotheses of buckling, contraction, convection of horizontal displacements account for the real distribution of gravity anomalies.

49-5-6/18

AUTHOR: Lyustikh, Ye. N.

TITLE: On convection in the shell of the Earth according to the calculations of Ch. L. Pekeris. (O konvektsii v obolochke zemli po raschetam Pikerisa).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya" (Bulletin of the Ac.Sc., Geophysics Series), 1957, No.5, pp. 604-615 (U.S.S.R.)

ABSTRACT: In recent years the geotectonic hypothesis of convection has become very popular particularly outside Russia. According to this hypothesis it is assumed that the heat generated by radio-active elements inside the Earth is transmitted to the outside not only by simple thermal conductivity but also by convective mixing of the substances of the shell of the Earth. The convective circulation is generated and maintained by temperature gradients which occur due to heat of radio-active origin. At the uppermost part of the Earth's shell the convective currents should flow horizontally and it is assumed that these bring about the trailing behind them of the Earth's crust resulting in stretching of the crust in some places and thickening in others. In this paper the convection model, calculated by Pekeris, is critically analysed and the author arrives at the

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On convection in the shell of the Earth according to the calculations of Ch. L. Pekeris. (Cont.)

conclusion that the results of world gravimetric measurements do not confirm the convection hypothesis. In his theory Pekeris did not derive any geotectonic conclusions from his calculations, he was interested solely in the mathematical solution of a problem formulated for certain conditions. Therefore, caution must be exercised when using his results for interpreting known relations pertaining the Earth's crust but, unfortunately, this is not always taken into consideration. Pekeris assumes a spherical non-rotating Earth and also that the Earth was at some time in the molten state and, although the material of the shell is now in the solidified state, it conserves the temperature approaching the melting temperature. According to the cosmogony theory of Shmidt, O. Yu. (3), the Earth formed from cold matter but during its process of formation and during the later stages the materials inside it became considerably heated (4, 5); these factors alone do not automatically invalidate the calculations of Pekeris. However, of greater importance is that according to Pekeris the convection flow is fed by heat from the top and not from the inside. He assumes that the horizontal temperature difference which generates convection

On convection in the shell of the Earth according to the calculations of Ch. L. Pekeris. (Cont.)

is due to the fact that heating of the sub-strata under the mainlands is more intensive than under the oceans owing to the higher content of radio-active substances in the mainland crust. The two basic errors made by Pekeris are his assumptions of heating from the top and his arbitrary fixing of the temperature distribution in the shell of the Earth; These are adequate to make the conclusions of Pekeris inapplicable to the real Earth. There are also a number of other less important reasons why his assumptions are invalid for the real Earth. As a result of his analysis the author concludes that none of the factual data confirm conclusively the existence of convection in the Earth's shell and, therefore, there is very little likelihood that the geotectonic convection hypothesis is correct.

There are 3 figures, 14 references, 9 of which are Slavic

SUBMITTED: July 11, 1956.
ASSOCIATION: Ac.Sc. U.S.S.R. Institute of Physics of the Earth. (Akademiya Nauk SSSR Institut Fiziki Zemli).
AVAILABLE: Library of Congress

3(1) PHASE I BOOK EXPLOITATION SOV/2031

Lyustikh, Yevgeniy Nikolayevich

Kritika geotektonicheskoy kontraktsionnoy gipotezy (Criticism of the Geotectonic Contraction Hypothesis) Moscow, AN SSSR, 1958. 44 p. (Series: Akademiya nauk SSSR. Institut fiziki zemli. Trudy, No. 3 [170]) 2,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut fiziki zemli.

Resp. Ed.: V.A. Magnitskiy, Doctor of Technical Sciences; Ed. of Publishing House: I. A. Rezanov; Tech. Ed.: N. D. Novichkova.

PURPOSE: This issue of the Transactions of the Institute of Earth Physics is intended for earth scientists concerned with the study of tectonic forces and deformations in the earth's crust.

COVERAGE: The author refutes the validity of the contraction theory which contends that all tectonic processes are caused by the contraction of the inner part of the earth's sphere by cooling. The author argues that the theory, as

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it stands, cannot explain the formation of the continents and ocean basins with their sharply differing crustal structure and composition. The author maintains further that a study of the history of the development of the earth's crust proves the importance of verticle crustal movement, a fact not explained by the contraction theory. Gravity anomaly studies also contradict the theory. The author contends that the theory was evolved without considering the development of the substrate and without considering the interrelations between the processes which take place in the crust and those which take place in the substrata. Studies in energetics by N. N. Pariyskiy are also mentioned as evidence in disproving the contraction theory. In summary, the author rejects theories positing a "hot" origin of the earth and subsequent cooling in favor of theories on the "cold" origin as developed by O. Yu. Shmidt and Ye. A. Lyubimova. There are 64 references: 51 Soviet and 13 English.

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AVAILABLE: Library of Congress

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8-11-59

KROPOTKIN, Petr Nikolayevich,; LYUSTIKH, Yevgeniy Nikolayevich,; POVALO-SHVEYKOVSKAYA, Nina Nikolayevna,; MAGNITSKIY, V.A., prof., otv. red.; PERMYAKOVA, A.I., red.;GUR'YANOV, V.P., tekhn. red.

[Gravity anomalies on continents and oceans and their significance for geotectonics; outline of the gravimetry of foreign countries] Anomalii sily tiazhesti na materikakh i okeanakh i ikh znachenie dlia geotektoniki; ocherk po gravimetrii zarubezhnykh stran. [Moskva] Izd-vo Mosk. univ., 1958. 75 p. (MIRA 11:11)
(Gravity)

Lyust, K.H., Ye. N.

24(8) PHASE I BOOK EXPLOITATION SOV/2768

Vsesoyuznoye soveshchaniye po geotermicheskim issledovaniyam. 1st, 1956.

Problemy geotermii i prakticheskogo ispol'zovaniya tepla zemli; trudy, t.1. (Geothermal Problems and the Practical Utilization of Terrestrial Heat; Transactions of the 1st All-Union Conference on Geothermal Investigations, Vol. 1) Moscow, Izd-vo AN SSSR, 1959. 254 p. Errata slip inserted. 1,300 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye geologo-geograficheskikh nauk.

Ed. of Publishing House: L. V. Gessen; Tech. Ed.: I. N. Guseva; Editorial Board: V. I. Vlodavets (Chairman), I. D. Dergunov (Deceased), V. V. Ivanov, F. A. Makarenko, and N. I. Khitarov.

PURPOSE: This book is intended for geologists, hydrogeologists, and geophysicists in general and petroleum and coal geologists in particular.

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COVERAGE: This volume, one of two published on the subject, is a collection of 22 articles based on reports presented at the First All-Union Conference on Geothermal Studies held in March, 1956. The Conference was sponsored and organized by the Laboratory of Vulcanology, the Laboratory of Hydrogeological Problems im. F. P. Savarinskiy, the Institute of Geochemistry and Analytical Chemistry, the Geophysical Institute, and was attended by representatives of more than 60 research organizations. The material presented in this volume may be divided into three general categories: (1) general geothermal problems of the Earth (2) current status and methods of geothermal research (3) regional geothermal problems. References accompany each article.

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SOV/49-59-11-2/28

AUTHOR: Lyustikh, Ye. N.

TITLE: On a Hypothesis of the Thalassogenesis and of Block-faults of the Earth's Core

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 11, pp 1542-1549 (USSR)

ABSTRACT: The hypothesis of thalassogenesis assumes that the origin of deep oceans was due to the sinking of continents. The hypothesis as explained by various workers is described and illustrated in Figs 1 to 4 in the form of examples. Fig 1 illustrates the Muratov theory (Ref 2) where: 1 - continent, 2 - continental slope, 3 - ocean, 4 - water, 5 - sima, and 6 - sial; the arrow shows a flow of the sial. This flow is also shown in Fig 3 where: 1 - a mountain, 2 - sial, 3 - sima, 4 - root. Fig 4 illustrates a hypothesis of the temporary rise of a region caused by a congestion of sial at greater depth; the cross sections represent the periods: a - before rise, b - after rise, and B - after fall (1 - crust, 2 - sclerofere, 3 - planetary fault, 4 - new portion of sial). Fig 2 shows the Atlantic ocean where: 1 - alpine rise, 2 - alpine internal depression,

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SOV/49-59-11-2/28

On a Hypothesis of the Thalassogenesis and of Block-faults of the Earth's Core

3 - alpine sub-geo-anticlines, 4 - alpine sub-geo-syncline, 5, 6 and 7 - depths 4, 5, above 5 km respectively. There are 4 figures and 22 references, 16 of which are Soviet, 4 English, 1 French and 1 German.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli (Academy of Sciences USSR, Institute of Physics of Earth)

SUBMITTED: February 4, 1959

Card 2/2

KIRILLOVA, I.V.; LYUSTIKH, Ye.N.; RASTVOROVA, V.A.; SORSKIY, A.A.; KHAIN, V.Ye.; BELOUSOV, V.V., otv.red.; EZ, V.V., red.izd-va; RYLINA, Yu.V., tekhn.red.

[Analysis of the geotectonic development and seismicity of the Caucasus] Analiz geotektonicheskogo razvitiia i seismichnosti Kavkaza. Moskva, Izd-vo Akad.nauk SSSR, 1960. 339 p. (MIRA 13:10)

1. Chlen-korrespondent AN SSSR (for Belousov).
(Caucasus--Geology, Structural) (Seismology)

S/049/60/000/01/001/027
E201/E191

AUTHOR: Lyustikh, Ye.N.

TITLE: Convection in the Earth's Mantle

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, No 1, pp 3-6

TEXT: The hypothesis that geotectonic processes are caused by thermal convection in the earth's mantle is considered. Convective heat transfer from the mantle to the crust is modelled by the heat balance of a liquid flowing laminarly between two parallel sloping walls (Fig 1); one of these walls is moving, and simulates the crust. If the thickness of the mantle is taken as 3000 km, the adiabatic temperature gradient as 0.3 °C/km, and the temperature below the crust as 1500 °K, then the calculations indicate that the crust can receive no more than 6% of the total energy from heat sources in the earth's core, i.e. not more than 10^{26} ergs/year. This does not contradict the current estimate of liberated seismic energy (10^{25} ergs/year). However, the thermal convection hypothesis leads to very long periods of "rest" (of the order of 10^9 years) between periods of seismic activity. Consequently,

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S/049/60/000/01/001/027
E201/E191

Convection in the Earth's Mantle

the author inclines to the idea of "geochemical" convection: upper layers of the mantle become heavier by losing light components and tend to sink, causing the observed tectonic transformations.
There are 1 figure and 10 references: 6 Soviet and 4 English.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli (Institute of Physics of the Earth, Academy of Sciences USSR)

SUBMITTED: May 5, 1959

Card 2/2

S/049/60/000/03/005/019
E131/E691

AUTHOR: Lyustikh, Ye. N.

TITLE: The Energy of Formation of the Earth's Crust

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, Nr 3, pp 402-408 (USSR)

ABSTRACT: The energy of formation of the Earth's crust was estimated to be $W = 10^{26}$ ergs/year. This value was obtained on the assumption that the forces acting in the Earth's mantle caused formation of a top layer of sial (Figs 1 and 2). As a result, the density of this top layer decreased by the value $\Delta D = D - d$ and that of the bottom layer of the mantle increased by $\Delta_1 D = D_1 - D$ (see Fig 1). Eqs (5)-(7) were used to deduce $\Delta D = 0.5$ g/cm^3. It was found that the value $W = 10^{26}$ ergs/year should be sufficient to supply the energy of all tectonic processes (estimated from the energy of earthquake waves). Formation of sial occurred probably by "planetary" break up (Ref 22),

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S/049/60/000/03/005/019
E131/E691

The Energy of Formation of the Earth's Crust

shown in Fig 3. There are 3 figures and 22 references, 18 of which are Soviet and 4 English.

ASSOCIATION: Akademiya nauk SSSR, institut fiziki zemli (Academy of Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: March 31, 1959

Card 2/2

LYUSTIKH, Ye.N.; SALTYKOVSKIY, A.Ya.

Some hypotheses of the origin of the granitic layer of the earth. Geokhimiia no.4:371-373 '60. (MIRA 13:10)

1. O.J. Schmidt Institute of Physics of the Earth, Academy of Sciences, U.S.S.R., Moscow.
(Granite)

LYUSTIKH Ye. N.; SALTYKOVSKIY, A. Ya.

Formation of the granite layer of the earth's crust. Geokhimiia no.4:293-297 '61. (MIRA 14:5)

1. O. Yu. Schmidt Institute of Physics of the Earth, Academy of Sciences U.S.S.R., Moscow.
(Granite)

LYUSTIKH, Ye. N.

Hypothesis of the earth's shell differentiation and geotectonic data. Sov.geol. 4 no.6:28-52 Je '61. (MIRA 14:6)

1. Institut fiziki Zemli imeni O. Yu. Shmidta AN SSSR.
(Geology, Structural)

PAVLOVA, A.I. Prinimali uchastiye: LYUSTIKH, Ye.N., nauchnyy sotr., kand. fiz.-mat. nauk; VEYTSMAN, P.S., nauchnyy sotr.; NIKOLAYEVA, L.K., red. izd-va; SUSHKOVA, L.A., tekhn. red.

[Structure of the crust and the upper part of the earth's mantle according to geophysical data; biographical index, 1937-1961] Stroenie kory i verkhnei chasti mantii Zemli po geofizicheskim dannym; bibliograficheskii ukazatel', 1937-1961. Moskva, Izd-vo Akad. nauk SSSR, 1962. 92 p. (MIRA 15:6)

1. Akademiya nauk SSSR. Institut fiziki Zemli. Biblioteka. 2. Institut fiziki Zemli Akademii nauk SSSR (for Veytsman, Lyustikh)
(Bibliography--Earth--Surface)

LYUSTIKH, Ye.N.

On B.A. Andreev's article "Free-air anomalies and isostasy." (MIRA 15:2)
Izv. AN SSSR. Ser. geofiz. no.3:392 Mr '62.
(Gravity) (Isostasy)

LYUSTIKH, Ye.N.

Some remarks on the use of physics in geotectonic studies. Izv. AN SSSR. Ser.geol. 27 no.1:109-110 Ja '62. (MIRA 15:1)
(Geology, Structural) (Geophysics)

VELIKOVSKAYA, [illegible].M.; VEYLAIN, A.B.; VERGUNOV, G.P.; [illegible], [illegible].A.; LYUSTIKH, Ye.N.; [illegible]VETSKIY, I.A.; [illegible], A.[illegible].; [illegible], [illegible].I.; SAVOCHKINA, Ye.N.; [illegible], [illegible].Ye.; ROMANSON, [illegible]; [illegible], Ye.[illegible].; LYUBIMOVA, L.V.; KHMARA, A.Ya.; [illegible]VSKAYA, [illegible]; [illegible], I.[illegible].; CHERNIKOV, [illegible].A.; SOROKIN, V.S.; IL'IN, A.N.; [illegible]SKAYA, V.N.; ZEZIN, [illegible].B.; [illegible]SKAYA, [illegible].A.; [illegible]VSKIY, [illegible].A.; KIS[illegible], I.G.; CHIZHOVA, N.I.; [illegible], G.P.; [illegible]V, Ya.[illegible].

Supplements. Biul. MOIP. Otd. geol. 39 no.4:155 [illegible] '64. (MIRA [illegible])

KROPOTKIN, P.N., otv. red.; BORISOV, A.A., red.; LYUBTIKH, Ye.N., red.; MAGNITSKIY, V.A., red.

[Isostasy] Izostaziia. Moskva, Izd-vo "Nauka," 1964. [illegible] p. (Its: Doklady sovetskikh geologov, problema 12)

1. International Geological Congress, 22d, 1964.

LYUSTIKH, Ye.N.

Neomobilism and convection in the earth's mantle. Article 2. Correlation of the hypotheses of convection and continental drift. Biul. MOIP. Otd. geol. 40 no.2:5-21 Mr-Ap '65. (MIRA 18:5)

LYUSTIN, L.I., inzh.

New method for finding leakages in the tubing of steam turbine condensers. Energomashinostroenie 4 no.10:46-47 O '58. (MIRA 11:11)
(Condensers (Steam))

L 2327-66 EWA(k)/FBD/EWT(1)/EEC(k)-2/T/EWP(k)/EWA(m)-2/EWA(h) SCTB/IJP(c) WG
ACCESSION NR: AP5023362 UR/0020/65/164/001/0078/0079

AUTHOR: Zargar'yants, M. N.; Kiselev, A. A.; Kropotova, O. D.; Kurbatov, L. N.; Lyustrov, Yu. M.; Sigriyanskiy, V. V.; Taubkin, I. I.; Shestopalova, I. P.

TITLE: A continuous GaAs injection laser cooled by a flow of gaseous helium

SOURCE: AN SSSR. Doklady, v. 164, no. 1, 1965, 78-79

TOPIC TAGS: laser, injection laser, gallium arsenide, gallium arsenide laser, laser pumping

ABSTRACT: A continuously operating GaAs junction laser cooled by a flow of helium vapor is described. A GaAs laser was mounted on a triangular base. The p-n junction was formed by vapor diffusion of zinc into a wafer of GaAs doped with Te oriented in the (111) plane. The junction area was 0.34 x 0.4 mm. The cavity was formed by cleaving. The experimental device used to obtain continuous emission is shown in Fig. 1 of the Enclosure. The major element in the device was a cryostat consisting of a double-wall silvered glass tube with

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L 2327-66
ACCESSION NR: AP5023362

the air pumped out from the space between the walls. One end of the tube and a heating element were lowered into the helium dewar. The diode at the other end of the tube was cooled by the flow of the helium gas. The advantage of the cooling system was that the diode's thermal regime depended primarily on the thermal characteristics of the helium gas and on the GaAs. When the laser was placed in the liquid helium and operated in the pulsed regime at a repetition rate of 50 pulses per second and at a pulse duration of 7 μsec, the threshold current density was 1300 amp/cm^2. Under the same conditions the threshold current density of the laser cooled to ~30K by a flow of helium gas was 230 amp/cm^2. The laser was also operated continuously at temperatures between 25 and 35K. At ~30K the threshold current density for continuous operation was 360 amp/cm^2. (The output power was not given for any of the operating regimes). Orig. art. has: 1 formula and 1 figure. [CS]

ASSOCIATION: none

SUBMITTED: 12Feb65 ENCL: 01 SUB CODE: EC

NO REF SOV: 000 OTHER: 004 ATD PRESS: 4107

Card 2/3

L 2327-66
ACCESSION NR: AP5023362

ENCLOSURE: 01

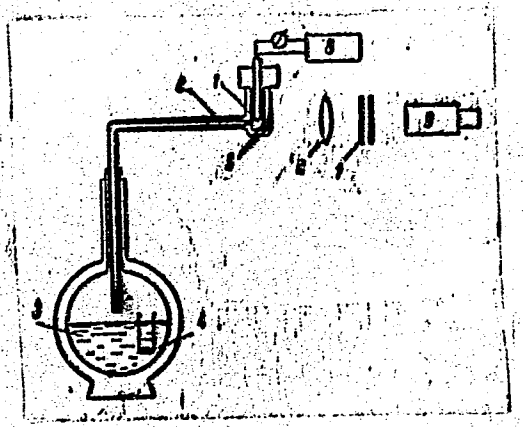

Fig. 1. The experimental setup for continuous operation of the GaAs laser

1 - GaAs diode; 2 - cryostat; 3 - liquid helium; 4 - heating element; 5 - windows; 6 - lens; 7 - Fabry-Perot interferometer; 8 - battery; 9 - image converter.

Card 3/3

SOV/137-58-7-15611

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 242 (USSR)

AUTHOR: Lyustrova, A. P.

TITLE: Variation of the Electrical Resistivity of a Fe-Ni-Cu Alloy in a Magnetic Field (Goldhammer-Thomson effect) [Izmeneniye elektricheskogo soprotivleniya splava Fe-Ni-Cu v magnitnom pole (effekt Gol'dgammera - Tomsona)]

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1957, Nr 72, pp 41-54

ABSTRACT: The influence of, a) the first annealing (1 hour at 600-650°C, 30 min at 700°), b) deformation of a homogeneous and heterogeneous alloy (reducing up to 99.4% by cold drawing) c) a second annealing (1 hour at 630-650°, 30 min at 700°), on the Goldhammer-Thomson effect Δr in alloys containing 19-19.76% Fe, 18.49-20% Ni, and 61-61.75% Cu was studied. The specimens in the shape of 3.5 and 1.5 mm-diam wire were prepared by cold rolling and drawing from bars of the alloys annealed at 600-650°. The samples were homogenized during 1-3 hours at 1050-1100°. The phenomenon of hysteresis of a variation of resistance in a magnetic field was discovered, which depends to a great extent on the magnetic and crystallographic texture. Δr

Variation of the Electrical Resistivity of a Fe-Ni-Cu Alloy (cont.)

is affected also by the ordering of the Fe-Ni-Cu alloys upon being subjected to corresponding treatment. The longitudinal $\Delta r_{\parallel}$ and the transverse $\Delta r_{\perp}$ have a negative sign in the region of technical magnetizing. The phenomenon observed here did not agree with Akulov's second law of paired effects according to which $\Delta r_{\parallel}$ and $\Delta r_{\perp}$ must have opposite signs. An attempt was made to explain this departure for Fe-Ni-Cu alloys, a) by the presence of magnetic and crystallographic texture; b) by taking into account the members with higher powers in Akulov's law of anisotropy; c) by the considerable role of the paraprocessus. In the majority of cases the value for Δr tends toward saturation with the increase of the intensity of the field. $\Delta r_{\perp}$ has a minimum value in deformed specimens at 40-50% deformation. After annealing, by contrast, these specimens attain maximum values of $\Delta r_{\perp}$.

L M.

1. Iron-copper-nickel alloys--Electrical properties 2. Iron-copper-nickel alloys--Magnetic factors

Card 2/2

SOV/137-58-10-21465

Translation from: Referativnyy zhurnal. Metallurgiya, 1958 Nr 10 p 143 (USSR)

AUTHOR: Lyustrova, A. P.

TITLE: A Study of the Effect of Various Thermal and Mechanical Treatment Conditions on the Electrical resistivity and Magnetic Properties of Fe-Ni-Cu Alloys (Izucheniye vliyaniya razlichnykh rezhimov termicheskoy i mekhanicheskoy obrabotki na elektricheskoye soprotivleniye i magnitnyye svoystva splavov Fe-Ni-Cu)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta 1957, Nr 72, pp 55-66

ABSTRACT: Several series of alloys very close in composition to the Neumann alloy (20% Fe, 20% Ni, 60% Cu) were investigated after various heat treatments, including quenching after one hour of homogenization at 1050°C, quenching and tempering at 600° for one hour, quenching with and without tempering, plastic deformation (drawing), and a second tempering for one hour at 630°. The following maximum magnetic properties were obtained by means of quenching, tempering, drawing, and a second tempering: Residual magnetization B_r = 5900 gauss, coercive force H_c = 520 oersted, $(BH)_{max}$ = 14.5·10^5 gauss oersted $B_r H_c$ = 29.6·10^5 gauss · oersted, the factor of the convexity of the

Card 1/2

A Study of the Effect of Various Thermal and Mechanical Treatment (cont.)

magnetization curve $\gamma = (BH)_{max}/B_r \cdot H_c = 0.49$. It is established that alloys subjected to deformation after the first tempering produce a sharper change in the magnetic properties than those deformed while in the homogeneous state. An almost rectangular hysteresis loop corresponding to the maximum magnetic energy $(BH)_{max}$, can be obtained only after combined treatment (quenching - tempering - deformation - tempering. The electrical resistivity increases noticeably after a strong plastic deformation and decreases upon tempering, especially upon tempering following deformation. The greatly decreased resistivity upon a second tempering is apparently related to a partial ordering. The presence of a superlattice structure in the alloy is verified by the increase in the resistivity and the decrease in the saturation upon plastic deformation of a homogeneous alloy.

M. G.

1. Copper-iron-nickel alloys---Electrical factors
2. Copper-iron-nickel alloys---Thermodynamci properties 3. Copper-iron-nickel alloys ---Heat treatment 4. Copper-iron-nickel alloys---Magnetic properties

Card 2/2

SOV/137-58-7-15624

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 244 (USSR)

AUTHORS: Lyustrova, A. P., Simbiryatina, A. V.

TITLE: Measurement of the Curie Temperature of Some Fe-Ni-Cu Alloys on Heat Treatment and Plastic Deformation (Izmereniye temperatury Kyuri nekotorykh splavov Fe-Ni-Cu pri ikh termicheskoy obrabotke i plasticheskoy deformatsii)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1957, Nr 72, pp 67-75

ABSTRACT: The effect of homogenization, annealing, and cold plastic deformation on the Curie point T_c of alloys of the Neumann alloy (20% Fe, 20% Ni, 60% Cu) was investigated. T_c was taken as the temperature that corresponds to the reduction to zero of the residual magnetization upon heating of a specimen magnetized at room temperature in a moderately intense field. The measurement of the residual magnetization was done by the ballistic method. It was determined that low values for T_c correspond to a homogeneous solid solution characterized by partial ordering. A decrease of the rate of cooling after homogenization brings about an increase in T_c, an increase

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Measurement of the Curie Temperature (cont.)

in coercive force, and a decrease in resistivity. The same effect is produced by a short-period (incomplete) homogenization subsequent to deformation and likewise the annealing of homogenous and especially heterogeneous solid solutions at 600-650°C. The effect of annealing is explained by the presence of strong magnetic properties in one of the phases resulting from decomposition.

M. G.

1. Copper-iron-nickel alloys--Heat treatment 2. Copper-iron-nickel alloys--Deformation 3. Copper-iron-nickel alloys--Magnetic properties

Card 2/2

USSR/ Physics - Hysteresis FD 1049

Card 1/1 : Pub. 153 - 20/23

Authors : Lyustrova, A. P., and Lipatova, V. A.

Title : Investigation of the hysteresis of the ballistic demagnetizing factor

Periodical : Zhur. tekh. fiz., 24, 1513-1519, Aug 1954

Abstract : Clarify the character of the hysteresis N(J) in occurring R. I. Yanus's formula (1950) for work expended against hysteresis during remagnetization of a ferromagnetic; i. e., clarify the elimination of the hysteresis loop of the ballistic demagnetizing factor. Also describe the influence on the character and magnitude of the hysteresis, of (a) the closeness of the loop to the limit for a given ferromagnetic, (b) properties of material, and (c) ratio of length to diameter. Thank Prof. R. I. Yanus for posing the subject.

Institution : --

Submitted : 18 January 1954

LYUSTROVA, A.P.

Changes of electrical resistance of Fe - Ni -Cu alloy in the magnetic field (Goldhammer - Thomson effect). Trudy Ural. politekh. inst. no.72: 41-54 '57. (MIRA 11:4)

(Iron-nickel-copper alloys--Electric properties)
(Iron-nickel-copper alloys--Magnetic properties)

LYUSTROVA, A.P.

Study of the effect of heat and mechanical treatment on the electric resistivity and magnetic properties of Fe - Ni - Cu alloys. Trudy Ural. politekh. inst. no.72:55-66 '57. (MIRA 11:4)
(Iron-nickel-copper alloys--Electric properties)
(Iron-nickel-copper alloys--Magnetic properties)

LYUSTROVA, A.P.; SIMBIRYATINA, A.V.

Measurment of Curie temperature of some Fe-Ni-Cu alloys during their heat treatment and plastic deformation. Trudy Ural. politekh. inst. no.72:67-75 '57. (MIRA 11:4)
(Iron-nickel-copper alloys) (Curie point)

LYUSTROVA, A.P.; BOBICH, M.M.

Determining the temperature coefficient of the electric resistance of certain alloys. Trudy Ural. politekh. inst. no.92:25-33 '59. (MIRA 13:12)

(Alloys—Electric properties)
(Metals, Effect of temperature on)

TYUNILYAYNEN, M.I.; LYUSTROVA, A.P.

Effect of combined mechanical and heat treatment on the thermoelectric properties of alloys. Trudy Ural. politekh. inst. no.92: 34-40 '59. (MIRA 13:12)
(Alloys) (Thermoelectricity)

S/196/62/000/001/004/013
E194/E155

AUTHOR: Lyustrova, A.P.

TITLE: Changes in the relationship between temperature and electrical resistance of certain alloys of Fe-Ni-Cu

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.1, 1962, 5, abstract 1B 30. (Tr. Ural'skogo politekhn. in-ta, 114, 1961, 47-57)

TEXT: Curves of electrical resistance ρ as a function of temperature for various initial structural states were determined on specimens of a magnetically-hard alloy of Cu-Ni-Fe (60-20-20%) in the form of wires 0.58-1.5 mm in diameter and 20-80 mm long. Measurements were made after homogenisation and hardening, after homogenisation and cold-working, after hardening and tempering, after working a homogeneous alloy and tempering, and after working a heterogeneous alloy and tempering. The results obtained are attributed to structural changes.
15 literature references.

[Abstractor's note: Complete translation.]

Card 1/1

TYUNILYAYNEN, M.I.; LYUSTROVA, A.P.; GAZIMOV, M.Kh.; TUBAYEV, Yu.V.; TIMOFEYEV, V.V.

Electronic butyrometer. Trudy Ural.politekh.inst. no.14:155-159 '61. (MIRA 16:6)

(Electronic measurements)

S/137/61/000/012/087/149
A006/A101

AUTHORS: Tyunilyaynen, M.I., Lyustrova, A.P., Bobich, M.M.

TITLE: Determining the oval shape of micron-thread apertures

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no.12, 1961, 34, abstract 12D274 ("Tr. Ural'skogo politekhn. in-ta", 1961, v. 114, 159 - 161)

TEXT: The authors propose a microprojector (optical ovalometer) which makes it possible to determine the diameter of micron threads without removing the mounting, with up to 0.4 μ accuracy. The device and its operational principles are described.

N. Yudina

[Abstracter's note: Complete translation]

Card 1/1

LYUSTROVA, A.P.

Studying the temperature dependence of the electric resistance in certain Fe-Ni-Cu alloys. Trudy Ural.politekh.inst. no.14: 47-57 '61. (MIRA 16:6)
(Iron-nickel-copper alloys--Electric properties)
(Metals, Effect of temperature on)

TYUNILYAYNEN, M.I.; LYUSTROVA, A.P.; BOVICH, M.M.

Determining the ovality of micron drawholes. Trudy Ural.politekh. inst. no.14:159-161 '61. (MIRA 16:6)
(Wire drawing) (Microprojection)

L 25698-66 EWT(1)/EWT(m) JD/JG

ACC NR: AP6002092 SOURCE CODE: UR/0139/65/000/006/0164/0165

AUTHOR: Lyuze, L. L.; Dukhanina, R. YA.

ORG: Siberian Physicotechnical Institute im. V. D. Kuznetsov (Sibirskiy fiziko-tekhnicheskiy institut)

TITLE: Work functions of the faces A and B of the (111) surface of gallium arsenide

SOURCE: IVUZ. Fizika, no. 6, 1965, 164-165

TOPIC TAGS: gallium arsenide, crystal surface, work function, germanium

ABSTRACT: The work function was measured by a capacitor method, with the contact potential difference measured relative to a platinum electrode, and the work function determined by comparison with germanium. The dependence of the work function on the humidity of the surrounding air was also investigated. The mean value of the work function was found to be 0.1 ev for both surfaces, deviations from the mean being due to unequal surface states. From the time variation of the contact potential difference it is concluded that in a dry medium the work function increases slightly, and in a humid medium it decreases slightly with time. The change for the surface B is larger in absolute value than the change for the surface A (40--50 against 10 mv). Further tests on the influence of different media on the work function of gallium arsenide are under way. Orig. art. has: 1 figure and 1 table.

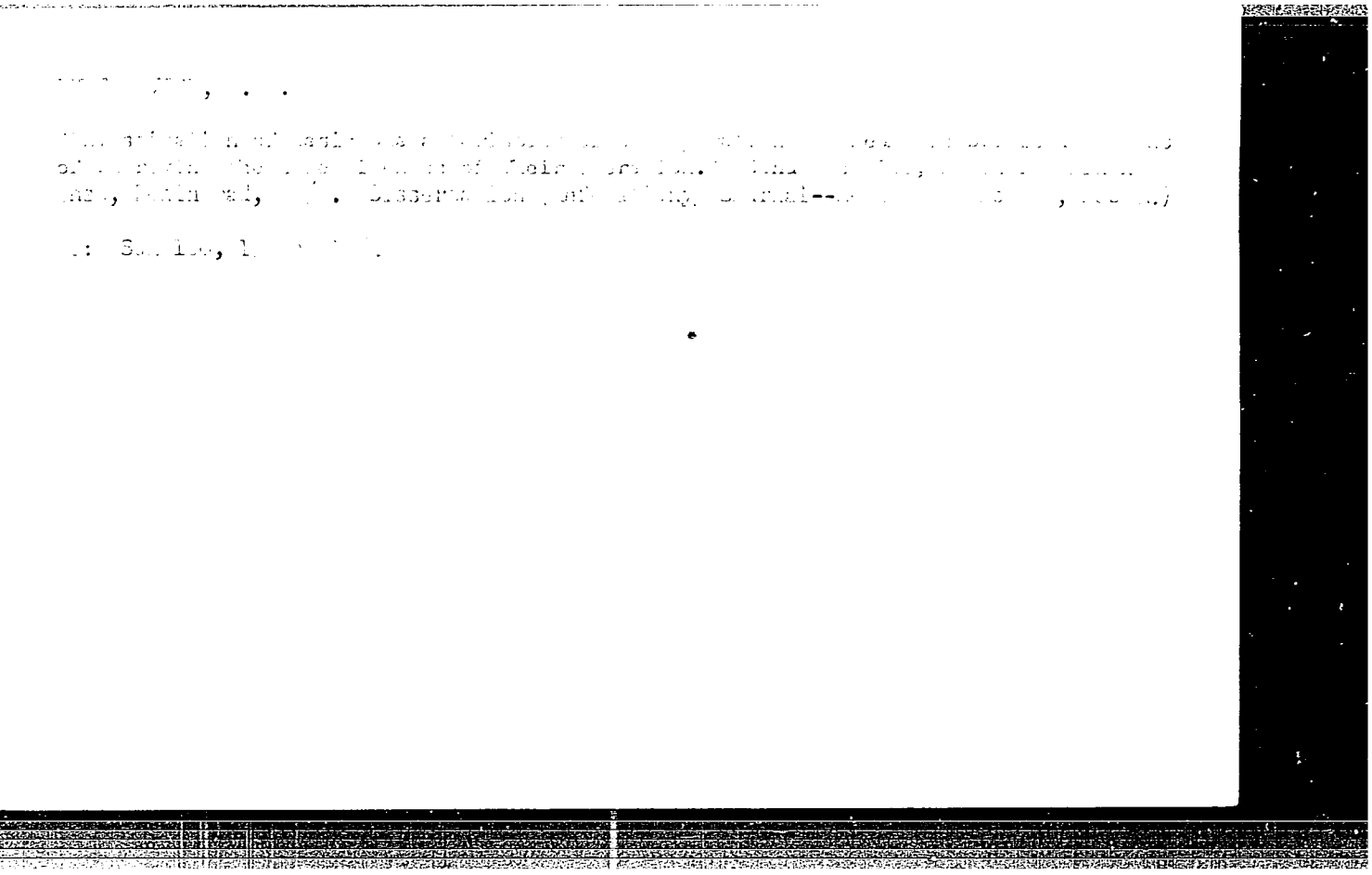
SUB CODE: 20/ SUBM DATE: 02Jul64/ ORIG REF: 001

Card 1/1

LYUTAREVICH, K.V.

LYUTAREVICH, K.V., dots., kand. tekhn. nauk; KONKIN, B.N., kand. tekh. nauk.

Valuable book on mine transportation machinery ("Mine transportation machinery" by A.V. Evnevich. Reviewed by K.V. Lutarevich, B.N. Konkin). Ugol' 33 no.2:47-48 F '58. (MIRA 11:2)
(Mine haulage) (Conveying machinery)
(Evnevich, A.V.)



LYUTAREVICH, K.V., dotsent; RZHONDKOVSKIY, R.P., dotsent

Some features of the work in the correspondence course "Mining Machinery" with students specializing in mining electromechanics. Izv. vys. ucheb. zav.; gor. zhur. no.11:173-175 '61. (MIRA 15:1)

1. Permskiy politekhnicheskiy institut.
(Mining engineering--Study and teaching)
(Correspondence schools and courses)

L 3633-66 EWT(1)/EWA(h) LJP(c) AT

ACCESSION NR: AP5021356 UR/0120/65/000/004/0174/0178
621.383.52

AUTHORS: Lyustrov, Yu. M.; Taubkin, I. I.

TITLE: Determining the linear character of inversion characteristics of lateral photocells by electrical measurements

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 174-178

TOPIC TAGS: photocell, inversion, electrical property, linear function

ABSTRACT: It is shown that measurements of electrical properties of a lateral photocell may be used to determine how the inversion characteristics (dependence of the longitudinal photo signal on the coordinates of the light spot on the sensitive surface of the device) of this photocell deviate from linear behavior. The resistances of the upper and lower regions of the photocell, R_U and R_L, and the dynamic resistance of the p-n junction R_D were determined by measuring directly the input resistances of the device with small voltages connected between its contacts. The method was used to determine the effect of a constant background of irradiation and of temperature changes on the linear behavior of the inversion characteristics of a silicon photocell. The cell was produced by diffusion of Ga

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L 3633-66

ACCESSION NR: AP5021356 2

in n-type silicon. The lateral resistance of both p- and n-bands was measured. The parameter of linearity

$$\alpha = \frac{1}{2l}\sqrt{\frac{R_U + R_L}{R_D}}$$

where $2l$ is the distance between the contacts at the end of the photocell, was determined from a table for the measured resistances, and the temperature dependence of the various resistances was plotted. For low values of the linearity parameter this method appears very promising, since the photoelectrical measurements lead to considerable error in this range. "The authors express their sincere thanks to A. I. Frimer and G. Z. Pis'man for their aid in conducting the experiments." Orig. art. has: 6 figures and 2 formulas. [04]

ASSOCIATION: none

SUBMITTED: 09Jul64 ENCL: 00 SUB CODE: EM, SS

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Card 2/2

ZARGAR'YANTS, M.N.; KISELEV, A.A.; KROPOTOVA, G.D.; KURBATOV, L.N.; LYUSTROV, Yu.M.; SIGRIYANSKIY, V.V.; TAUBKIN, I.I., SHESTOPALOVA, I.P.

Continuous operation of a GaAs injection laser cooled by a flow of gaseous helium. Dokl. AN SSSR 164 no.1:78-79 S '65. (MIRA 18:9)

1. Submitted February 24, 1965.

ALEKSANDROV, G.P.; LYUTAYA, M.D.

Gravimetric determination of potassium in natural potassium salts by the nickel-nitrite method. Ukr.khim.zhur. 21 no.4:518-521 '55. (MLRA 9:2)

1.Institut geologii poleznykh iskopayemykh AN USSR, laboratoriya mineral'noy khimii.

(Potassium salts)

TANANAYEV, I.V.; LYUTAYA, M.D.

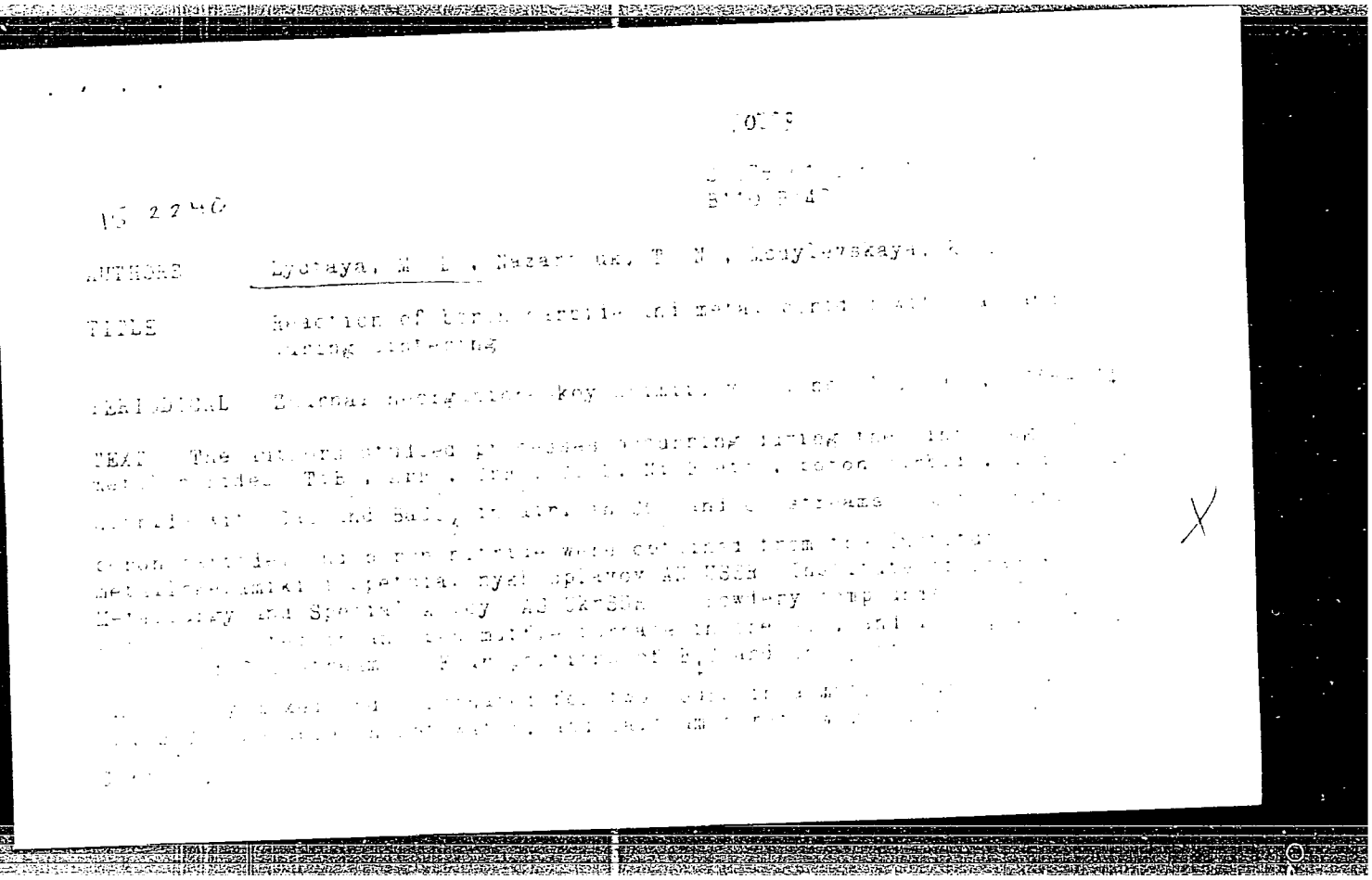
Part 1: Mixed lanthanum and potassium nitronickelates. Zhur.neorg. khim. 4 no.1:97-102 Ja '59. (MIRA 12:2)
(Potassium nitronickelate) (Lanthanum nitronickelate)

TANANAYEV, I.V.; LYUTAYA, M.D.

Part 2: Mixed praseodymium and neodymium and neodymium nitronickelates. Zhur.neorg.khim. 4 no.1:103-109 Ja '59. (MIRA 12:2)
(Praseodymium nitronickelate) (Neodymium nitronickelate)

TANANAYEV, I.V.; LYUTAYA, M.D.

Samarium, yttrium and ytterbium hexanitronickelates. Zhur.neorg.khim. 4 no.2:457-464 F '59. (MIRA 12:3)
(Nitronickelates)

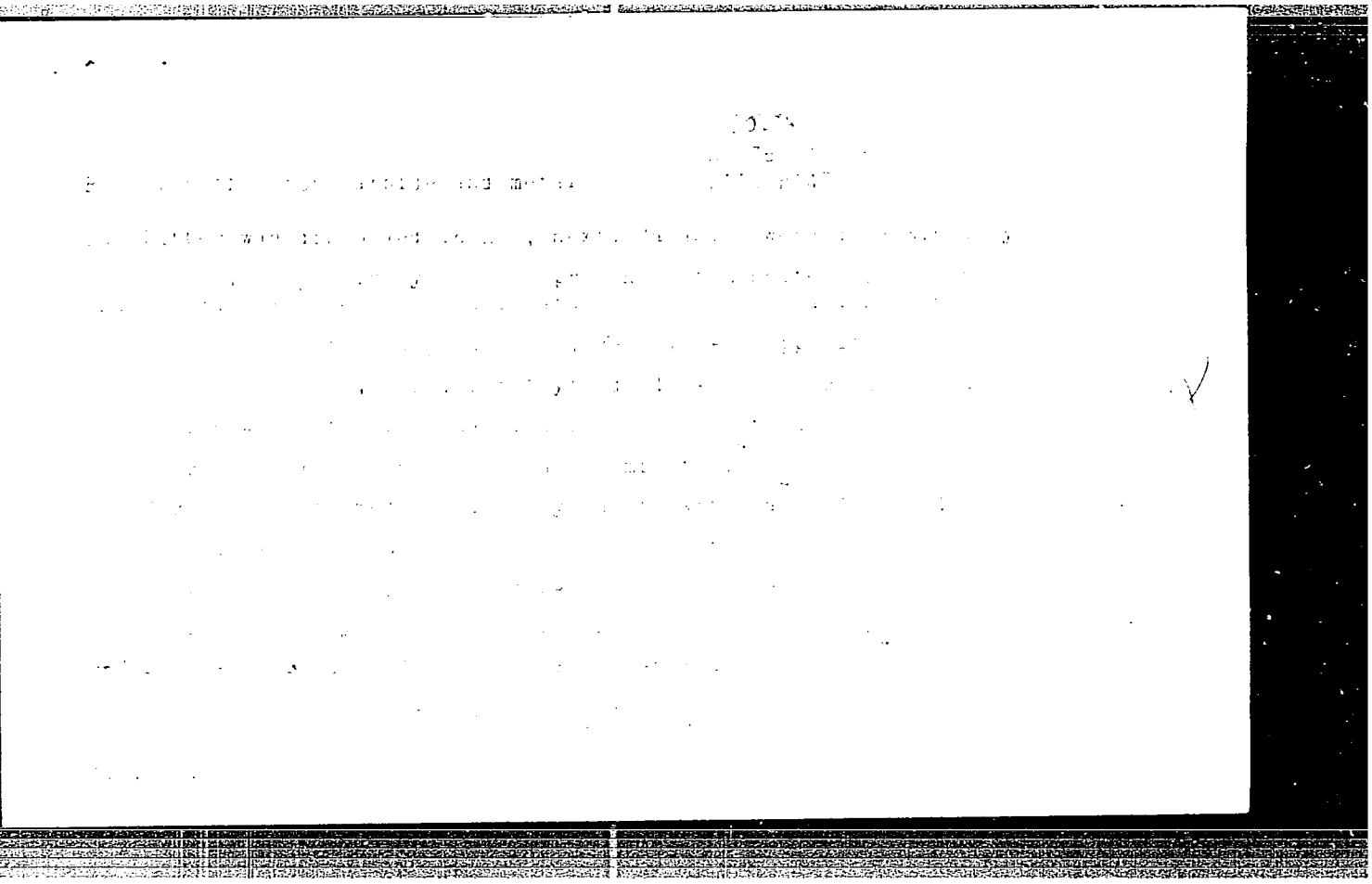


AUTHORS Lyutaya, M. I., Nazarenko, T. N., Kovylyanskaya, L.

TITLE Reaction of [illegible] oil metal [illegible] during sintering

PERIODICAL [illegible]

TEXT [illegible]



Reaction of boron carbide and metal ...

in water and hardly soluble in HCl was obtained. In an aqueous extract, after 2 hr sintering of B_4C and $BaCO_3$ at 820°C, the ratio $Ba^{2+} : B^{3+}$ was ~1, $BaO : B_2O_3 = 2 : 1$. B_4C or metal borides are oxidized to B_2O_3 by CO_2. B_2O_3 immediately reacts with BaO under the formation of water-soluble $2BaO \cdot B_2O_3$ ($Ba_2B_2O_5$) which could be analytically proven. CO_2 forming by reaction between borides and $BaCO_3$ was gas-analytically detected. Its amount corresponded to the reactions suggested. Higher CO_2 content in zirconium and titanium borides is explained by the formation of experimentally detected $BaZrO_3$ and $BaTiO_3$ with decomposition of additional $BaCO_3$. Thus, the reactions

$$B_4C + 4BaCO_3 + 4O_2 \rightarrow 2Ba_2B_2O_5 + 5CO_2 \quad (1)$$

$$4BN + 4BaCO_3 + 3O_2 \rightarrow 2Ba_2B_2O_5 + 2N_2 + 4CO_2 \quad (2)$$

$$4Ni_2B + 4BaCO_3 + 5O_2 \rightarrow 2Ba_2B_2O_5 + 4Ni_2O + 4CO_2^{**} \quad (3)$$

$$4Co_2B + 4BaCO_3 + 7O_2 \rightarrow 2Ba_2B_2O_5 + 8CoO + 4CO_2^{**} \quad (4)$$

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Reaction of boron carbide and metal ...

$$2ZrB_2 + 4BaCO_3 + 5O_2 \rightarrow 2Ba_2B_2O_5 + 2ZrO_2 + 4CO_2 \quad (5)$$
$$2TiB_2 + 4BaCO_3 + 5O_2 \rightarrow 2Ba_2B_2O_5 + 2TiO_2 + 4CO_2 \quad (6)$$
$$CrB_2 + 3BaCO_3 + 3O_2 \rightarrow Ba_2B_2O_5 + BaCrO_4 + 2CO_2 \quad (7)$$

take place. CO formation in the reaction of B_4C with $BaCO_3$ in a O_2 atmosphere is as follows: $B_4C + 4BaCO_3 + 3O_2 \rightarrow 2Ba_2B_2O_5 + 2CO$. There are 6 tables and 12 references: 11 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: H. Blumenthal. Analyt. Chem., 23, 1256 (1951).

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Powder Metallurgy and Special Alloys AS UkrSSR)

SUBMITTED: November 9, 1960

Card 4/4

S/032/61/027/0[illegible]/003/[illegible]
B106/B1[illegible]C

AUTHORS: Medylevskaya, K D , Lyutaya, M D , and Nazarchuk T N

TITLE: Caking method in analyses of boron carbide, boron nitride and metal borides

PERIODICAL: Zavodskaya laboratoriya, v 27, no 11, 1961, 1345-1346

TEXT: In the present paper, a method of decomposing boron carbide boron nitride, and metal borides by caking with CaO, MgO, and $BaCO_3$ has been developed, since the traditional methods (acid decomposition, melt in platinum crucible, melt in iron crucible) have several drawbacks in mass analyses. Platinum crucibles are not required for the new method. The authors found that a 40% oxidation of the borides of hardly fusible metals, and boron carbide and nitride, takes place with formation of boric acid anhydride by 2 hr roasting in an open muffle furnace at 950°C. Further oxidation proceeds very slowly, since the particles coat with the molten boron trioxide. This particle vitrification can be avoided and the oxidation period reduced by careful mixing of boron carbide with a

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S/032/61/027/011/003/016
B106/B110

Caking method in analyses of boron

porous material. For this purpose, the authors used CaO, MgO, and $BaCO_3$. The sample is completely oxidized within 1 - 1.5 hr by carefully mixing the borides of hardly fusible metals with the tenfold amount of CaO or MgO, and caking the mixture in an open muffle furnace at 950 - 1000°C. Only in the case of chromium boride, complete decomposition takes 2 hr. The resulting B_2O_3 reacts with CaO to give calcium polyborate $Ca_2B_6O_{11}$, which is practically insoluble in water. The cake thus formed has therefore to be dissolved in dilute hydrochloric acid. After neutralization with dilute sodium lye with methyl red as indicator, some drops of hydrochloric acid are added until the indicator rechanges to red. Then a small amount of dry $BaCO_3$ is added until the color turns yellow. The solution is then heated to boiling, and the deposit of admixtures is filtered off and carefully washed with hot water. Much better results are obtained by caking with $BaCO_3$. In this process, the borides of hardly fusible metals are completely decomposed, and practically all boron passes into the aqueous extract after treatment with water. When the

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deposited admixtures have been filtered off, boron contained in this extract is determined by titration with lye in the presence of mannite or invert sugar. The above caking of metal borides, and boron nitride and carbide, with CaO or $BaCO_3$ was conducted in nickel, iron, and porcelain crucibles. Unglazed porcelain crucibles proved best suitable for caking with CaO, and nickel crucibles for caking with $BaCO_3$. The cake can easily be removed from the crucible walls and taken out by shaking. The authors tested the above method of caking with CaO and $BaCO_3$ by comparative boron determinations by the above method and that of black ash. The good agreement of results proves the suitability of the described method for determining boron in boron carbide and nitride, and in metal borides. There are 1 table and 1 Soviet reference

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences UkrSSR)

LYUTAYA, M.D.; BUKHANEVICH, V.F.

Chemical and thermal stability of nitrides of elements of the third group. Zhur.neorg.khim. 7 no.11:2487-2494 N '62. (MIRA 15:12)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.

(Nitrides)

SAMSONOV, G.V.; LYUTAYA, M.D.

Preparation of cerium nitride. Zhur.prikl.khim. 35 no.11:2359-2362 N '62. (MIRA 15:12)

1. Institut metallokeramiki i spetssplavov AN UkrSSR.
(Cerium nitride)